

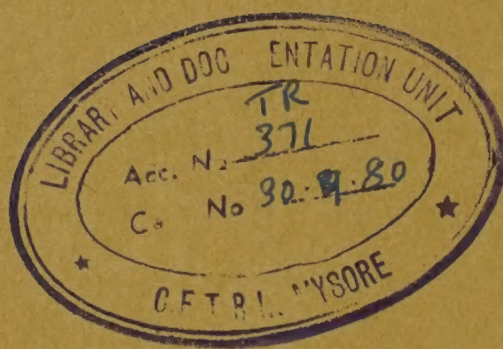
Tropical Products Institute

Tropical Products Institute Report

651 Selected bibliography on cassava (*Manihot esculenta* Crantz)

Jean S. Ingram





PREFATORY NOTE

The Tropical Products Institute has in preparation a number of interrelated reports on the production, processing and marketing of cassava and cassava products.

This bibliography is the first in the series.

The Tropical Products Institute is a British Government organisation which helps developing countries to derive greater benefit from their renewable resources.

It specializes in post-harvest problems and will be pleased to answer requests for information and advice. Reports such as this one are often written as the result of an enquiry.

Reproduction of this report, in whole or in part, is gladly permitted provided that full acknowledgement is given to the Tropical Products Institute, Ministry of Overseas Development, and to the author or authors, where named.

Requests for further information should be addressed to:

The Director,
Tropical Products Institute,
56/62, Gray's Inn Road,
London W.C.1.

Introduction

The cassava plant *Manihot esculenta* Crantz, is known by many names, the most common of which are cassava in English speaking countries of Africa; manioc, manihot, mandioca and yuca in Latin America; tapioca in tropical Asia, and manioc in Francophone Africa. In European trade the terms 'manioc' and 'cassava' are usually applied to the dried (chips, roots, flour) or semi-processed root tubers and the products obtained by wet processing are called tapioca and tapioca starch. Moreover, in commercial practice, the terms starch and flour are very often used interchangeably. Botanically too there is some confusion. The valid taxon is *Manihot esculenta* Crantz, which is synonymous with the taxon *M. utilissima* Pohl. The latter, however, is still widely used, but as it is no longer valid, should now be discontinued.

Cassava is indigenous to tropical America and seems to have been in cultivation there for about four thousand years; it is now unknown in the wild state except as an escape. From South America, the plant has spread to tropical and sub-tropical regions all over the world, the main areas of culture being West Africa, East Africa, Brazil, India, Indonesia, Madagascar, Malaysia, Philippines and Thailand.

The plant is a perennial shrub which may reach a height of about 3 m. although the habit varies greatly between cultivars. The leaves are palmate and are often shed during dry periods with little apparent harm to the growth of the plant. The small apetalous flowers are borne in racemes near the ends of the branches, male and female flowers being borne on the same raceme. They are entomophilous. Female flowers are succeeded by three-seeded dehiscent capsules. The plant has a fibrous root system, but some of the roots develop into root tubers by process of secondary thickening. These tubers develop radially around the base of the plant and are the main economically useful part of the plant: they are used extensively as a starchy food in many tropical countries. The young leaves and shoots of cassava are rich in protein, vitamin and minerals. In some cassava growing regions they are consumed as a vegetable but their use is not very widespread.

Cassava thrives under various conditions of climates and soil types, and can withstand a certain period of drought. The relatively easy culture makes it a popular staple food crop in many parts of the world. However, it contains very little protein, around 1 per cent, and between 15 - 30 per cent of starch on a fresh-weight basis. It is thus essentially a carbohydrate food, and a cheap source of calories in the diet. So far as food production in the tropics is concerned, cassava is the most important single crop after rice. Production figures for 1967 are shown in the following table:

	<u>1967 Production</u> (thousands metric tons)
Latin America	32,783
Near East	130
Far East	19,323*
Africa	30,388
Oceania	115
World Total	82,739

(FAO Production Yearbook, 1968)

*Excludes Mainland China whose production is estimated to be about 10 million tons.

For complex reasons, there has been a rapid increase in cassava growing in recent years. Nearly all the cassava in the world is produced by non-mechanized subsistence farmers to whom a most important factor is that cassava can produce more calories of food per unit input of labour than most other tropical crops. Naturally the plant benefits from good soil but it is extremely accommodating and produces reasonable yields even under adverse conditions. It is afflicted by few diseases, the most serious being mosaic virus (spread by a white fly, *Bemisia* spp.) which causes chlorosis and distortion of the leaves and may cause serious loss of yield or even death of young plants.

In addition to many food uses, dried cassava slices or chips are ground into coarse flour and used as a raw material for domestic and some industrial purposes, e.g. animal feeding, starch, glucose and alcohol production. There is a substantial international trade in cassava chips and pellets for compound animal feedingstuffs.

Considering the use of cassava for food and industrial products, there is good reason to believe that the crop will continue to increase in importance. In view of the worldwide interest in different aspects of the plant and its applications, the following list of references has been compiled. This bibliography is by no means exhaustive as much of the material published on the crop consists of small notes of limited value, sometimes in literature difficult of access. It does, however, include most references of major value in the more accessible sources.

General

Affran, D.K.	(1968)	Cassava and its economic importance. <i>Ghana Fmr.</i> 12 (4), 172-178.
Alberto, J.	(1957)	A mandioca. Pt.I - Origem descr. e cultura. <i>Gazeta agric., Angola</i> , 1 (8), 295-300, 307; Pt.II - Doencas, pragas, animais selvagens. <i>ibid</i> , 2 (11), 504-506.
Alberto, J.	(1958)	A mandioca. Pt.III - Sues derivados, preparos e usos. <i>Gazeta agric., Angola</i> , 3 (3), 128-131. Pt.IV - Importancia economica da cultura. <i>ibid</i> , 3 (6) 266-272.
Angladette, A.	(1949)	La situation et l'avenir de la production du manioc dans les territoires d'outre mer de l'Union Française. <i>Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille</i> , 63-68.
Angladette, A.	(1949)	Note sur la production du manioc. <i>Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille</i> , 142-163.
Anon.	(1949)	Dahomey - Manioc des plantes féculentes tropicales. <i>Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille</i> , 91-92.
Anon.	(1949)	Le manioc au Togo. <i>Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille</i> , 100-106.
Anon.	(1949)	Note sur le manioc en Indochine. <i>Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille</i> , 134-142.
Anon.	(1961)	Cassavas. <i>Farmer's Guide, Kingston, Jam. Rev. ed.</i> , 534-537.
Anon.	(1962)	The cassava industry in Jamaica. <i>Caribb. Agric.</i> , 1 (1), 34-41.
Anon.	(1962)	Wealth of India, Raw Materials, 6, L-M, 286-297. <i>Coun. Sci. ind. Res.</i> , New Delhi.

- Bedu, P. (1949) *Note sur le manioc au Cameroun. Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille, 93-99.*
- Biokzeyl, K.R.F. (1922) *De Cassava. 2nd Ed. Haarlem, Wil*
- Brand, D.D. (1943) *Tapioca from a Brazilian root. Agriculture in the Americas, U.S.D.A. 3 (5), 93-96.*
- Burkill, I.H. (1935) *A dictionary of the economic product the Malay Peninsula, 2, 1408-1420. London, Crown Agents.*
- Cerighelli, M., Cours, G. (1950) *Les principales cultures des Comores Cah. colon. Supp. tech., Marseille, Jan., (1), 9.*
- Childs, A.H.B. (1961) *Cassava. Min. Agric., Tanganyika, No. 15.*
- Corriols, M. (1951) *Les cultures vivrières dans les territoires relevant du Secteur Soudanais de recherches agronomiques, Le manioc. Agron. trop., Nogent, 6 (7-8), 417-8.*
- Cours, G. (1949) *Les études scientifiques sur le manioc la station agricole du Lac Alaotra. Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille, 124-131.*
- Cours, G. (1949) *Note sur la culture et la selection manioc a Madagascar. Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille, 118-123.*
- Cours, G. (1951) *Le manioc à Madagascar. Agron. trop. Nogent., 6 (1-2), 76-77.*
- Cours, G. and Fritz, J. (1960) *Le manioc. Inst. de Rech. Agron. Madagascar, 23 pp. Doc. No. 1.*
- Doku, E.V. (1969) *Cassava in Ghana. Ghana University Press, 44 pp.*
- Dufournet, R. (1962) *Le manioc dans la province de Tulear (Madagascar), variétés locales synt des essais variétaux. Agron. trop. Paris, 17 (11), 1015-1020.*

- Dufournet, R. et Goarin, P. (1957) Note sur la culture du manioc à Madagascar. *Riz Rizic. Cult. vivr. trop.*, 3 (1), 15-38.
- Ekandem, M.J. (1962) Cassava in Nigeria, Part 1 - Eastern Nigeria. *Memo No. 42, Fedl. Dep. agric. Res., Ibadan, Nigeria.*
- Faurie, M. (1949) Etude des divers problèmes concernant le manioc à Madagascar. *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 111-117.
- Fritz, J. et Bohl, P. (1965) Le manioc à Madagascar. *Revue int. Prod. colon.*, 40 (425), Mars, 51-53.
- Greenstreet, V.R. and Lambourne, J. (1933) Tapioca in Malaya. *Dep. Agric. Str. Settle. Fed. Malay States. Gen. Ser. No. 13*, pp.76.
- Irvine, F.R. (1953) *A textbook of West African agriculture*, 111-118. London, Geoff. Cumberlege, Oxford University Press.
- Johnston, B.F. (1958) *The staple food economies of western tropical Africa*, 106-112. California, Stanford Univ. Press.
- Jones, W.O. (1959) *Manioc in Africa*. California, Stanford University Press. 315 pp.
- Langlands, B.W. (1966) Cassava in Uganda, 1860-1920. *Uganda J.*, 30 (2), 211-218.
- Massall, E., and Barrau, J. (1956) Food plants of the South Sea Islands. *S.P.C. tech. Pap.*, No. 94, 21-23.
- Mendiola, N.B. (1931) Cassava growing and cassava starch manufacture. *Philipp. Agric.*, 20 (7), 447-476.
- Mièges, J. and Lefort, M. (1949) Le manioc en Cote d'Ivoire. *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 86-90.
- Migvar, L. (1968) How to grow taros, yams, cassava and sweet potatoes. *Div. Agric., Dep. Resources Dev., Trust Territory Pacif. Is., Saipan, Mariana Is., Agric. Ext. Bull.*, No. 7, pp.32.

- | | | |
|-------------------------------------|--------|--|
| Mouton, J. | (1949) | Le manioc en Afrique Equatoriale Française. <i>Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française</i> , Inst. colon. Marseille, 107-110. |
| Oyenuga, V.A. | (1967) | <i>Agriculture in Nigeria</i> , 166-171. F.A.O. Rome. |
| Purseglove, J.W. | (1968) | <i>Tropical crops. Dicotyledons</i> , 1, 172-180. London, Longmans Green & Co. Ltd. |
| Pynaert, L. | (1928) | <i>Notes pratiques pour les colons agricoles</i> . No. 11. <i>Le manioc</i> . pp.80. Min. colon., Bruxelles. |
| Pynaert, L. | (1951) | <i>Le manioc</i> . 2nd Ed., pp.166. Min. colon., Bruxelles. |
| Rao, H.A.G. | (1951) | Cultivation of cassava and the preparation of its products. <i>Mysore agric.</i> 27 (3), 57-69. |
| Rao, N.S. | (1951) | A short note on tapioca. <i>Mysore agric. J.</i> , 27 (3), 70-73. |
| St. Amand, R.D. de
and Fritz, J. | (1959) | Les sols cultivés en manioc dans la région de Moramanga. <i>Riz Rizic. Cult. vivr. trop.</i> , 5 (1), 49-53. |
| Silva, A. de F. | (1964) | A mandioca. <i>Gazeta Agric. Moçamb.</i> , 1 (179), 109-117. |
| Tapioca Enquiry
Committee | (1952) | Govt. Travancore - Cochin, India, Fin. Rep., pp.125. |
| Tourneur, M. | (1949) | La culture du manioc. <i>Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française</i> , Inst. colon. Marseille, 58-62. |
| Upton, M. | (1966) | <i>Agriculture in Uboma. Uboma. A socio-economic and nutritional survey of a rural community in eastern Nigeria</i> ; Geogr. Union, The World Land Use Survey Occasional Pap. No. 6, 83-104. |

Botany, agronomy; diseases, pests.

- Afonja, B. (1968) Analyses of a uniformity trial on cassava. *Expl Agric.*, 4 (2), 135-141.
- Albuquerque, M. de (1957) Some aspects of the social economic influence of cassava (*Manihot utilissima*) in Amazonia. (*Norte Agron.* 1957, 3 (3), 13-21), *Chem. Abstr.*, 1958, 52 (2), 1504.
- Alagianagalingam, M.N., Ramakrishnan, K. (1969) Studies on a virus disease of tapioca (*Manihot esculenta* Crantz). I. Water relations and mineral metabolism. *Madras agric. J.*, 56 (6), 406-411.
- Alagianagalingam, M.N. Ramakrishnan, K. (1970) Studies on a virus disease of tapioca (*Manihot esculenta* Crantz). II. Carbohydrate metabolism. *Madras agric. J.*, 57 (2), 55-62.
- Alzona, O. (1935) Field tests of twenty varieties of cassava. Abstr. of thesis in *Philipp. Agric.*, 24 (1), 79-80.
- Anantanarayanan, K.P. *et al* (1957) A note on the tapioca scale (*Aonidomytilus albus*, Cockerell) *Madras agric. J.*, 44 (7), 281-286.
- Angladette, A. (1949) Note sur la production du manioc. *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 142-163.
- Anon. (1960) Results of cassava trials to date. *Chitedze Bull.*, No. 4, 1959. *Nyasaland Fmr Forester*, 5 (2), 19-22.
- Anon. (1968) Varietal improvement of four food crops in the Malagasy Republic. Rice - cassava - maize - sorghum. Present situation and future outlook. *The Abidjan Conference. Agricultural research priorities for economic development in Africa*, 2, 162-174. *U.S. National Academy of Sciences*.
- Anon. (1969) Le manioc (Fiche technique). *Cah. agric. Prat. Pays Chauds*, (4) 177-184. Supplement to *L'agron. Trop.*, 24 (10).
- Anon. (1969) Control of weeds in cassava. *Notic. agric. Serv. Shell Agric.*, 5 (17), 65-67; *Fld Crop Abstr.*, 1969, 22 (4), 410.

- Appan, S.G.
Rogers, D.J. (1970) The closed gene pools of *Manihot* delimited by computer - aided taxonomic methods, to aid utilization of the wild genetic wealth in cassava improvement programs. *Trop. Root and Tuber Crops Newsl.*, (3), 16-18.
- Arraudeau, M. (1967) Cassava in the Malagasy Republic. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 1*, Section III, 180-184.
- Averre, C.W. (1967) Vascular streaking of stored cassava roots. *Proceedings of the International Symposium of Tropical Root Crops, Trinidad, 2*, Section IV, 31-35.
- Beck, B.D.A. and Chant, S.R. (1958) Preliminary investigation on the effect of cassava mosaic virus on *Manihot utilissima* Pohl, in Nigeria: *Trop. Agric. Trin.*, 35 (1), 59-64.
- Bolhuis, G.G. (1953) A survey of some attempts to breed cassava varieties with a high content protein in the roots. *Euphytica*, 2, 107-112.
- Bolhuis, G.G. (1967) Intra and interspecific crosses in the genus *Manihot*. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 1*, Section I, 81-87.
- Bouriquet, G. (1949) Pathologie du manioc dans les territoires français d'outre-mer. *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Institut colon. Marseille*, 73-75.
- Brown, L.H. (1963) A national cash crops policy for Kenya (Parts I and II), 120-122. *Min. agric. Anim. Husbandry, Kenya*.
- Chant, S.R. (1958) Studies on the transmission of cassava mosaic virus by *Bemisia* spp. (Aleyrodidae.) *Ann. appl. Biol.*, 46 (2), 210-215.
- Chant, S.R. (1959) Note on the inactivation of mosaic virus in cassava (*Manihot utilissima* Pohl.) by heat treatment. *Emp. J. exp. Agric.*, 27 (105), 55-58.
- Chant, S.R. and Marden, J.A. (1958) A method for the rapid propagation of cassava cuttings. *Trop. Agric., Trinidad*, 35 (3), 195-199.

- Chant, S.R. and Beck, B.D.A. (1959) Effect of cassava mosaic virus on the anatomy of cassava leaves. *Trop. Agric., Trin.*, 36 (3), 231-236.
- Cobley, L.S. (1956) *An introduction to the botany of tropical crops*, 174-177. London, Longmans, Green and Company.
- Corriols, M. (1951) Les cultures vivrières dans les territoires relevant du Secteur Soudanais de recherches agronomiques. Le manioc. *Agron. trop., Nogent*, 6 (7-8), 417-418.
- Cours, G. (1949) Les études scientifiques sur le manioc à la station agricole du Lac Alaotra. *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 124-131.
- Cours, G. (1949) Note sur la culture et la selection du manioc à Madagascar. *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 118-123.
- Cours, G., Fritz, J. and Ramahadimby, G. (1963) Phellodermic diagnosis of manioc. *Potash Rev.*, Subject 5, pp.2.
- Cours-Darne, G. (1968) Improving cassava in Africa. *The Abidjan Conference. Agricultural research priorities for economic development in Africa*, 2, 330-339. U.S. National Academy of Sciences.
- Doku, E.V. (1966) Cultivated cassava varieties in Ghana. *Ghana J. Sci.*, 6 (3-4), 74-86.
- Doku, E.V. (1967) Root crops in Ghana. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad*, 1, Section III, 39-68.
- Dufournet, R. (1962) Le manioc dans la province de Tulear (Madagascar), variétés locales synthèse des essais varietaux. *Agron. trop., Paris*, 17 (11), 1015-1020.
- Ekandem, M.J. (1962) Cassava in Nigeria. Pt. I. Eastern Nigeria. *Memo No. 42 Fedl Dep. agric. Res. Ibadan, Nigeria* (not published).

- Ekandem, M.J. (1964) Cassava investigations carried out in Northern Nigeria: 1958-62. *Memo No. Fedl Dep. agric. Res., Ibadan, Nigeria*.
- Ekandem, M.J. (1965) Cassava investigations carried out in Northern Nigeria: 1958-62. *Samaru agric. Newsletter*, 7 (2), 22-29. (Memo No. 55 Fedl Dep. agric. Res. Ibadan, Nigeria.)
- Ekandem, M.J., and Waitt, A.W. (1965) Effect of types of cutting on the yield of cassava. *Memo No. 59. Fedl Dep. agric. Res. Ibadan, Nigeria*.
- Huertas, A.S. (1939-40) A study of the yield of cassava as affected by the age of cuttings. *Philipp. Agric.*, 28 (9), 762-770.
- Jacob, A., Uexkull, H. von (1960) *Fertiliser use. Nutrition and manure of tropical crops*, 151-157. Hannover Verlags für Ackerbau mbH.
- Jaubert, P. (1953) Manioc (diseases of leaves and stems). *Centre Recherches Agronomiques de Bamboula Bull.* No. 7, 38-39.
- Jennings, D.L. (1960) Observations on virus diseases of cassava in resistant and susceptible varieties. I, Mosaic disease. *Emp. J. exp. Agric.*, 28 (109), 23-24.
- Khen, C.S. (1969) Notes on the growing of cassava at Serdang. Paper read at *Malaysian Crop Diversification Conference, Kuala Lumpur* November. pp.9.
- Kitajima, E.W. and Costa, A.S. (1964) Elongated particles found associated with cassava brown streak. *E. Afr. agric. For. J.*, 30 (1), 28-30.
- Krochmal, A. and Cubero, J. (1967) A cassava insect. *Wld Crops*, 19 (6) 23.
- Krochmal, A. and Samuels, G. (1967) The influence of NPK levels on the growth and tuber development of cassava in tanks. *Proceedings of the International Symposium on Tropical Crops, Trinidad*, 1, Section II, 97-100.
- Krochmal, A. and Samuels, G. (1968) Deficiency symptoms in nutrient pot experiments with cassava. *Ceiba*, 1 (1), 7-16.

- Lambourne, J. (1927) A preliminary report on tapioca as a catch-crop with oil palms. *Malay. agric. J.*, 15 (4), 104-113.
- Lambourne, J. (1937) Tapioca varietal trials. *Malay agric. J.*, 25 (3), 107-112.
- Lambourne, J. (1937) Experiments on the economic maintenance of soil fertility under continuous cropping with tapioca. *Malay agric. J.*, 25 (4), 134-145.
- Lulofs, R.B. (1969) A study of method and costs for commercial planting of tapioca in Kedah. Paper read at *Malaysian Crop Diversification Conference, Kuala Lumpur*. November. pp.18.
- Magoon, M.L. (1967) Recent trends in cassava breeding in India. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, I, Section I*, 100-117.
- Magoon, M.L., Jos, J.S., Nair, S.G. (1969) A morphological, embryological and cytological study of male sterility in *Manihot esculenta* Crantz. *Trop. Root and Tuber Crop Newsl.*, (2), 10-14.
- Magoon, M.L., Jos, J.S., Nair, S.G. (1970) Cytogenetics of induced polyploids of cassava. *Trop. Root and Tuber Crops Newsl.*, (3), 18-20.
- Malavolta, E., Graner, E.A., Coury, T., Brasil Sobr, M.O.C., Pacheco, J.A.C. (1955) Studies on the mineral nutrition of cassava, (*Manihot utilissima* Pohl.) *Pl. physiol. Lancaster*, 30 (1), 81-82.
- Mallamaire, A. (1949) Les insectes nuisibles au manioc en Afrique Noire. *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 72-73.
- Marassi, A. (1968) La manioca in Costa d'Avorio la sua importante, negli ordinamente producttivi del paese. *Riv. agric. Subtrop. Trop.*, 62 (7-9), 201-227.
- Mason, R.R. (1956) Cassava varieties in Fiji. *Fiji agric. J.*, 27 (3-4), 88-93.
- Menon, M.R., and Raychaudhari, S.P. (1970) Cucumber - a herbaceous host of cassava mosaic virus. *Pl. disease Reporter, U.S.D.A.*, 54 (1), 34-35.

- Mercado, T. (1939-40) A comparative study of two bud sports of cassava and their parent varieties. *Philipp. Agric.*, 28 (4), 308-315.
- Mièges, J. (1957) Essais culturaux sur le manioc. *J. Agric. trop. Bot. appl.*, 4 (9-10), 402-441.
- Mièges, J. and Lefort, M. (1949) Le manioc en Cote d'Ivoire. *Congrès manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 86-90.
- Molinyawe, C.D. (1967) Status of root crop research in the Philippines. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, I, Section III*, 69-83.
- Montoya, L.A., Casseres, E.H., Hernandez, G., Mosqueda, R., Brambila, S., Tejada, I. (1967) Preliminary work on the problem of classifying manioc varieties. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, I, Section I*, 89-99.
- Nilakantan, K.S. (1952) Manures for tapioca crop. *Tapioca Enquiry Committee, Govt. Travencore-Cochin, India. Final Rep., Appendix* 92-96.
- Normanha, E.S. and Pereira, A.S. (1950) Aspectos agronomicos da cultura da mandioca. *Bragantia*, 10 (7), 179-184.
- Normanha, E.S. (1969) Tõda mandioca tem veneno. *Cooperco* 26 (234), 24-25. *Trop. Abstr.*, 1972 25 (1), t.144, 40.
- Okigbo, B.N. (1966) The use of covariance in the adjustment for a fertility gradient in a cassava pre-planting cultivations experiment. *Niger. J. Sci.*, 1 (1), 55-64.
- Pingale, S.V., Muthu, M., Sharangapani, M.V. (1956) Insect pests of stored tapioca chips and their control. *Bull. cent. For technol. Res. Inst., Mysore*, 5 (6), 134-136.
- Purseglove, J.W. (1968) *Tropical Crops, Dicotyledons*, 1, 17 London, Longmans, Green and Co.
- Pushparajah, E., Yeok, T.S. (1969) Tapioca as an intercrop in rubber. Paper read at *Malaysian Crop Diversification Conference, Kuala Lumpur, November*. pp.10.

- Pynaert, L. (1928) *Notes pratiques pour les colons agricoles. No. 11. Manioc. Min. colon., Bruxelles, pp.76.*
- Richardson, H.L. (1960) *Manuring of crops in the Far East. Wld Crops, 12 (5), 183-184.*
- Rodriguez, N.F., Sanchez de Bustamante, C.A., Tarabanoff, J. (1966) *Algunos factores que influyen en la comportamiento del cultivo de mandioca en la Provincia de Misiones. Revta Invest. Agropecuarias, B. Aires, Series 2, 3 (11), 167-208.*
- Rogers, D.J. (1963) *Studies of Manihot esculenta Crantz and related species. Bull. Torrey bot. Club, 90 (1), 43-54.*
- Rogers, D.J. (1965) *Some botanical and ethnological considerations of Manihot esculenta. Econ. Bot., 19 (4), 369-377.*
- Rogers, D.J. (1967) *A computer-aided morphological classification of Manihot esculenta Crantz. Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 1, Section I, 57-80.*
- Schmidt, N.C. and Pereira, A.S. (1968) *Comportamento do cultivar 'Mantiqueira', e de outros, de mandioca, em solos da serie pinhao (terciario), no vale do paraiba, estado de Sao Paulo. Bragantia, 27 (22), 249-255.*
- Schwerin, K.H. (1970) *Apuntes sobre la yuca y sus origenes. Trop. Root and Tuber Crops Newsl., (3), 4-12 (English summary 10-11).*
- Silva, J.R. da and Schmidt, N.C. (1967) *Probable resistance to lodging of cassava cv. IAC-7-127. Bragantia, 26, Note 13, LXIII-LXV; Fld Crop Abstr., 1969 22 (4), 410.*
- Silva, J.R. da and Freire, E.S. (1968) *Influencia da aplicacao de adubos minerais nos sulcos de plantio, sobre os "stands" de culturas de mandioca. Bragantia, 27 (26), 291-300.*
- Silva, J.R. da and Freire, E.S. (1968) *Efeito de doses crescentes de nitrogenio, fosforo e potassio sobre a producao de mandioca em solos de baixa e alta fertilidade. Bragantia, 27 (29), 357-364.*

- Silvestre, P. (1968) Research on root crops. *The Abidjan Conference. Agricultural research priorities for economic development in Africa*, 2, 340-345. U.S. National Academy of Sciences.
- Sivagami, R. and Rao, K.R.N. (1967) Control of the tapioca scale *A.albus* Ckll. *Madras agric. J.*, 54 (6), 325-327.
- Spencer, R. (1962) A rapid method for estimating the leaf area of cassava (*Manihot utilissima* Pohl.), using linear measurements. *Trop. Agric. Trin.*, 39 (2), 147-152.
- Tardieu, M., Fauche, J. (1957) Contribution à l'étude des techniques culturales chez le manioc. *Annales du Centre de Recherches Agronomiques de Bambey au Senegal, Bull. Agron.* No. 18 (2nd Part) - 1958, 14-25.
- Templeton, J.K. (1969) Identification and naming of tapioca varieties in West Malaysia. Paper read at *Malaysian Crop Diversification Conference, Kuala Lumpur*, November. pp.9.
- Upton, M. (1966) Agriculture in Uboma. *Uboma. A socio-economic and nutritional survey of a rural community in Eastern Nigeria*, I. Geogr. Union; *The World Land Use Survey Occasional Paper* No. 6, 96-97.
- Urueta, E.J. (1970) *Mononychus planky*, a potential pest of *Manihot* in Columbia. *Trop. Root and Tuber Crops Newsl.*, (3), 14.
- Waite, A.J., Ekandem, M.J. (1966) A method for scoring leaf symptoms of cassava mosaic virus. *Memo No. 62, Fedl Dep. agric. Res., Ibadan, Niger*
- Williams, C.N. Ghazali, S.M. (1969) Growth and productivity of tapioca (*Manihot utilissima*) I. Leaf characteristics and yield. *Expl Agric.*, 5 (183-194).
- Yong, C.W. (1969) The performance of tapioca, sweet potato and ginger on peat at the Federal Experiment Station, Jalan Kebun, Seremban Planter, Kuala Lumpur, 45 (521), 44

Chemical and nutrition studies, toxicity

- | | | |
|---|--------|--|
| Abeelee, M. van den and
Vandenput, R. | (1952) | Manioc. <i>Plantes amylacées. Centre d'information et de documentation du Congo Belge et du Ruanda-Urundi, Min. colon., Bruxelles, 3-12.</i> |
| Adriaens, E.L. | (1951) | Recherches sur l'alimentations des populations au Kwango. Manioc. <i>Bull. agric. Congo belge, 42 (3), 476-484, 518-520.</i> |
| Adriaens, E.L. and
Hestermans-Medard, O. | (1954) | Remarques a propos de la composition chimique du manioc roui, non roui ou cuit a l'eau. <i>Bull. agric. Congo belge, 45 (1), 1-24.</i> |
| Akinrele, I.A. | (1964) | Fermentation of cassava. <i>J. Sci. Fd Agric., 15, Sept., 589-594.</i> |
| Akinrele, I.A. | (1967) | Nutrient enrichment of gari. <i>W. Afr. J. biol. appl. Chem., 10 (1), 19-23.</i> |
| Alba, M.G. | (1937) | A study of different varieties of cassava for hog feeding purposes. <i>Philipp. Agric., 25 (9), 782-796.</i> |
| Bailey, K.V. | (1961) | Rural nutrition studies in Indonesia. III. Epidemiology of hunger oedema in the cassava areas. <i>Trop. geogr. Med., 13 (4), 289-302.</i> |
| Bailey, K.V. | (1961) | Rural nutrition studies in Indonesia. IV. Oedema in lactating women in the cassava areas. <i>Trop. geogr. Med., 13 (4), 303-315.</i> |
| Bassir, O. | (1964) | Improving the level of nutrition. <i>W. Afr. J. biol. appl. Chem., 7 (3), 32-40</i> |
| Barrios, E.A. and
Bressani, R. | (1967) | Composición química de la raíz y de la hoja de algunas variedades de yuca <i>Manihot. Turrialba, 17 (3), 314-320.</i> |
| Bissett, F.H.,
Clapp, R.C. et al | (1969) | Cyanogenesis in manioc: concerning lotaustralin. <i>Phytochem., 8 (11), 2235-2247.</i> |
| Cedillo, V.G. | (1952) | Cassava rice or landang. <i>Philipp. Agric., 35 (8), 434-440.</i> |

- J.C. and
(1968) Biochemical changes caused by some *Aspergillus* species in root tuber of cassava (*Manihot esculenta* Crantz.) *Trop. Sci.*, 10 (3), 149-154.
- Close, J., Adriaens, E.L., (1953) Composition en acides aminés d'hydrolysats de farine de manioc roux variété amère. *Bull. Sté. Chim. Biol.*, 35 (9), 985-992.
- Moore, J.,
Bigwood, E.J.
- Collard, I. (1963) A species of *Corynebacterium* isolated from fermenting cassava roots. *J. appl. Bact.*, 26 (2), 115-116.
- Dema, I.S. and (1966) The diet, food economics and health of Uboma people. *Uboma. A socio-economic and nutritional survey of a rural community in eastern Nigeria*, Int. Geogr. Union, The World Land Use Survey, Occasional Pap. No. 6, 51-69.
- Osama, M.D.
- Etorma, S.B. (1936) Chemical studies on cassava products. I. The critical moisture-molding content of cassava starch. *Philipp. J. Agric* 7 (4), 409-412.
- Favier, J.C. (1969) Les amyloses du Cameroun. I. Étude de la digestibilité *in vitro* de l'amidon de diverses plantes alimentaires du Sud-Cameroun. Influence des transformations technologiques sur l'amidon de manioc. *Centre O.R.S.T.O.M. de Yaoundé (Cameroun)*, June, Pt. I. 9-13. Reprinted also *Inds. aliment. agric.*, 86 (1), 9-13.
- Favier, J.C., (1969) Les amyloses du Cameroun. II. Les transformations technologiques du manioc. Leur influence sur la valeur nutritive. *Centre O.R.S.T.O.M. de Yaoundé (Cameroun)*, June, Pt. II, 3-5.
- Chevassus-Agnes, S.,
Gallon, G.
- Floch, H. (1957) Sur la richesse exceptionnelle en vitamine C de feuilles de plantes Guyanaises (manioc, yucca, agaves). *J. Agric. trop. Bot. appl.*, 4 (9-10), 385-391.
- Furlong, J.R. (1942) Nigerian cassava starch. *Bull. Imp. Inst.*, 40 (4), 257-268.
- Garros, M. (1949) Standardisation et conditionnement de manioc séchés et note sur le conditionnement du tapioca. *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française* *Inst. colon. Marseille*, 68-72.

- Ghosh, B.N. (1967) Recent developments in the manufacture of starch from cassava roots in Uganda. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 2*, Section VI, 37-47.
- Gramacho, D. (1947) Chemical study of the cassava roots. *Anais. assoc. quim. Brazil*, **6**, 123-132 and *Chem. Abstr.*, 1950, **44**, March, 2606.
- Greenstreet, V.R. (1928) Studies on tapioca. I. Sampling a standing crop. II. The coeruleo-molybdate method for determination of phosphates. *Malay. agric. J.*, **16** (3), 59-75.
- Greenstreet, V.R. (1929) Studies on tapioca. III. Further notes on determination of phosphoric acid in tapioca material by coeruleo-molybdate method. *Malay. agric. J.*, **17** (7), 210-212.
- Gusten, R. (1968) Studies in the staple food economy of Western Nigeria. No. 30 in *Afrika studies series from the Ife Inst. für Wirtschaftsforschung, München*. London, Hurst & Co.
- Halliday, D., Gureshi, A.H., Broadbent, J.A. (1967) Investigations on the storage of gari. *Rep. Niger. Stored Prod. Res. Inst., Fedl Min. Tr., Nigeria, Tech. Rep.* No. 16, 131-141.
- Hegarty, P.V.J. and Wadsworth, G.R. (1968) The amount of iron in processed cassava (*Manihot utilissima*). *J. trop. Med. Hyg.*, **71** (2), 51-52.
- Jeffers, H.F. and Haynes, P.H. (1967) A preliminary study of the nutritive value of some dehydrated tropical roots. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 2*, Section VI, 72-91.
- Johnson, R.M. and Raymond, W.D. (1965) The chemical composition of some tropical food plants. IV. Manioc. *Trop. Sci.*, **7** (3), 109-115.
- Kim, J.C. and Ruiter, D. de (1968) Bread from non-wheat flours. *Fd Technol.*, **22** (7), 55-66.
- Krochmal, A. and Samuels, G. (1967) The influence of NPK levels on the growth and tuber development of cassava in tanks. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 1*, Section II, 97-102.

- Subrahmanyam, B. (1962) Studies on the dehydration of tapioca. *Fd Sci., Mysore*, 11 (4), 99-100.
- Leroy, A.M. and François, A. (1949) Les plantes féculentes tropicales dans l'alimentation des animaux. *Congrès, manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 75-78.
- Majumder, S.K., Pingale, S.V., Swaminathan, M. Subrahmanyam, V. (1956) Control of spoilage in fresh tapioca tubers. *Bull. cent. Fd technol. Res. Inst. Mysore*, 5 (5), 108-109.
- Maner, J.N., Buitrago, J., Jimenez, I. (1967) Utilisation of yuca in swine feeding. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad*, 2, Section VI, 62-71.
- Martiis, P. de (1969) Efecto de las adiciones de almidón de yuca, harina y harina precocida de maíz sobre la panificación de harinas comerciales de trigo. *Revta Inst. Invest. tecnol., Bogota*, 11 (58), 9-18.
- Massall, E. and Barrau, J. (1956) Food plants of the South Sea Islands. *S.P.C. tech. Pap.*, No. 94, 21-23.
- Mathur, M.L., Sampath, S.R., Ghosh, S.N. (1969) Studies on tapioca: Effect of 50 and 100 per cent replacement of oats by tapioca in the concentrate mixture of dairy cows. *Indian J. Dairy Sci.*, 22 (3), 193-199.
- Mitchell, D.L. (1964) Some properties of starches extracted from chemically treated dry cassava. *Makerere Univ. Coll. Rep. to Uganda Dev. Corporation*, pp.29.
- Montgomery, R.D. (1969) Cyanogens. *Toxic constituents of plant foodstuffs*, 143-157. Ed. by I.E. Lie. New York; London, Academic Press.
- Murthy, H.B.N., Swaminathan, M., Subrahmanyam, V. (1954) Effects of partial replacement of rice in a rice diet by tapioca flour on the metabolism of nitrogen, calcium and phosphorus in adult human beings. *Br. J. Nutr.*, 8 (1), 11-16.
- Nartey, F. (1968) Studies on cassava, *Manihot utilissima* Pohl - I. Cyanogenesis: The biosynthesis of linamarin and lotaustralin in etiolated seedlings. *Phytochem.*, 7, 1307-1312.

- Nartey, F. (1969) Studies on cassava, *Manihot utilissima* Pohl - II. Biosynthesis of asparagine-¹⁴C from ¹⁴C-labelled hydrogen cyanide and its relations with cyanogenesis. *Physiologia Pl.*, **22**, 1085-1096.
- Nicholls, L., (1961) *Tropical nutrition and dietetics*.
Sinclair, M.M., London, Baillière, Tindall & Cox.
Jelliffe, D.B.
- Oke, O.L. (1966) Chemical studies on some Nigerian food-stuffs - Kpo kpogari (processed cassava). *Trop. Sci.*, **8** (1), 23-27.
- Oke, O.L. (1966) The need for a new source of protein. *W. Afr. Pharm.*, **8** (6), 112-116.
- Oke, O.L. (1967) The present state of nutrition in Nigeria. *Wld Rev. Nutr. Diet.*, **8**, 25-61.
- Oke, O.L. (1968) Cassava as food in Nigeria. *Wld Rev. Nutr. Diet.*, **9**, 227-250.
- Oke, O.L. (1969) The role of hydrocyanic acid in nutrition. *Wld Rev. Nutr. Diet.*, **11**, 170-198.
- Oyenuga, V.A. (1959) *Nigeria's feedingstuffs, their composition and nutritive value*. Ibadan, University Press.
- Oyenuga, V.A. and (1957) A note on hydrocyanic acid content of
Amazigo, E.O. cassava. *W. Afr. J. biol. Chem.*, **1** (2), 39-43.
- Oyenuga, V.A., (1957) The value of cassava rations for pork
and Opeke, L.K. and bacon production. *W. Afr. J. biol. Chem.*, **1** (1), 3-14.
- Pereira, A.S., (1960) Teor de acido cinidrico na polpa des
Nery, J.P., raizes dos aipins. *Bragantia*, **19** (17),
Conagin, A. 247-259.
- Pereira, A.S. and (1962) Determinacao de toxicidade da mandioca
Pinto, M.G. pelo paladar das raizes in natura. *Bragantia*, **21**, Pt. 2, Note 25.
- Phillips, P.G. and (1959) Nitrogen balance in Nigerians. *J. trop.*
Ladell, W.S. *Med. Hyg.*, **62** (8), 181-194.

- Pingale, S.V.,
Muthu, M.,
Maranappan, M.V. (1956) Insect pests of stored tapioca chips and their control. *Bull. cent. Fd technol. Res. Inst. Mysore*, 5 (6), 134-136.
- Prawiranegara, D.D. and Hong, L.G. (1962) *Main nutrition problems in Indonesia Presented at the Far East Symposium on Nutrition, Saigon - Vietnam, 1962*, under the joint sponsorship of the Government of Vietnam, Ministry of Health and the Inter-departmental Committee on Nutrition for National Defence of the Government of the U.S.A.
- Rasper, V. (1969) Investigations on starches from major starch crops grown in Ghana.
I. - Hot paste viscosity and gel forming power. *J. Sci. Fd Agric.*, 20, 165-172.
II. - Swelling and solubility patterns amyloclastic susceptibility. *ibid*, 2, 642-646.
- Raymond, W.D.,
Jojo, W.,
Nicodemus, Z. (1941) The nutritive value of some Tanganyika foods. II. Cassava. *E. Afr. agric. J.*, 6, 154-159.
- Reddy, S.K.,
Doraiswamy, T.R.,
Sankaran, A.N.,
Swaminathan, M.,
Subrahmanyam, V. (1954) Effects on the general health and nutritional status of children of partial replacement of rice in a poor vegetarian diet by tapioca flour. *Br. J. Nutr.*, 8 (1), 17-21.
- Ribeiro, O. (1942) The acidity of grated manioc flour. *An. Assoc. quim. Brasil*, 1, 264-269.
- Rogers, D.J. (1959) Cassava leaf protein. *Econ. Bot.*, 13, 261-263.
- Rogers, D.J. and Milner, M. (1963) Amino acid profile of manioc leaf protein in relation to nutritive value. *Econ. Bot.*, 17, 211-216.
- Sinha, S.K. and Nair, T.V.R. (1968) Studies on the variability of cyanoglucoside content in cassava tubers. *Indian J. agric. Sci.*, 38 (6), 958-961.
- Sreeramamurthy, V.V. (1945) Investigations on the nutritive value of tapioca (*Manihot utilissima*). *India med. Res.*, 33 (2), 229-238.
- Subrahmanyam, V.,
Murthy, H.B.N.,
Swaminathan, M. (1954) Effects of partial replacement of rice or wheat or ragi (*Eleusine coracana*) by tapioca tuber flours on the nutritive value of poor vegetarian diets. *Br. J. Nutr.*, 8 (1), 1-10.

- Subramanyam, H. and Mathur, P.B. (1956) Effect of a fungicidal wax coating on the storage behaviour of tapioca roots. *Bull. cent. Food technol. Res. Inst., Mysore*, 5 (5), 110-111.
- Terra, G.J.A. (1964) The significance of leaf vegetables, especially of cassava in tropical nutrition. *Trop. geogr. Med.*, 16 (2), 97-108.
- Vignoli, L. and Cristau, B. (1949) Caracteres analytiques des "tapiocas". *Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille*, 81-83.
- Williams, A.O. and Osuntokun, B.O. (1969) Peripheral neuropathy in tropical (nutritional) ataxia in Nigeria. Light and electron microscopic study. *Archs Neurol., Chicago*, 21, 475; *BIBRA Inform. Bull.*, 1970, 9 (4), 200-201.
- Winton, A.L. and Winton, K.B. (1935) *The structure and composition of foods*, 2, 84-87. New York, John Wiley & Sons, Inc. London, Chapman & Hall, Ltd.
- Wood, T. (1965) The toxic and nutritional qualities of cassava. *W. Afr. Pharm.*, 7 (1), 2-4.

Medical, pharmacological studies

- | | | |
|---|--------|---|
| Abrol, Y.P. | (1967) | Studies on the biosynthesis of amygdalin, the cyanogenic glycoside of bitter almonds. (<i>Prunus amygdalus</i> Stokes). <i>Indian J. Biochem.</i> 4, 54. |
| Adams, J.H.,
Blackwood, W.,
Wilson, J. | (1966) | Further clinical and pathological observations on Leber's optic atrophy. <i>Brain</i> , 39, 15-26. |
| Bailey, K.V. | (1961) | Rural nutrition studies in Indonesia. III. Epidemiology of hunger oedema in the cassava areas. <i>Trop. geogr. Med.</i> 13, (4), 289-302. |
| Bailey, K.V. | (1961) | Rural nutrition studies in Indonesia. IV. Oedema in lactating women in the cassava areas. <i>Trop. geogr. Med.</i> , 13, (4), 303-315. |
| Ekpechi, O.L.,
Dimitriadou, A.
Fraser, R. | (1966) | Goitrogenic activity of cassava (A staple Nigerian food). <i>Nature, Lond.</i> , 210, 1137-1138. |
| Hirano, A.,
Levine, S.,
Zimmerman H.M. | (1968) | Remyelination in the central nervous system after cyanide intoxication. <i>J. Neuropath. exp. Neurol.</i> , 27, 234. |
| Katiyar, K.P. and
Ferrer, W.F. | (1965) | Evaluacion del efecto del polvo de yuca en la dieta larval de la mosca del Mediterraneo, <i>Ceratitis capitata</i> Wied. (Effect of yucca flour in the diet of larvae of the Mediterranean fruit fly, <i>Ceratitis capitata</i> Wied.) <i>Turrialba</i> 15, 350-353. (English summary.) |
| Langman, M.J.S.,
Doll, R., Wilson, J. | (1966) | Plasma and salivary thiocyanate in gastric cancer. <i>J. Br. Soc. Gastroenterology - GUT</i> , 7, 549-552. |
| Monekosso, G.L. and
Wilson, J. | (1966) | Plasma thiocyanate and vitamin B ₁₂ in Nigerian patients with degenerative neurological disease. <i>Lancet</i> , May 1062-1064. |
| Montgomery, R.D. | (1964) | Observations on the cyanide content and toxicity of tropical pulses. <i>W. I. med. J.</i> , 13, (1), 1-11. |
| Montgomery, R.D. | (1969) | Cyanogens. <i>Toxic constituents of foodstuffs</i> , 143-157, Ed. by I.E. Li. New York; London, Academic Press. |

- Osuntokun, B.O. (1968) An ataxic neuropathy in Nigeria - A clinical, biochemical and electrophysiological study. *Brain*, **91**, Pt. II, 215-248.
- Osuntokun, B.O., Monekosso, G.L., Wilson, J. (1969) Relationship of a degenerative tropical neuropathy to diet: Report of a field survey. *Br. med. J.*, 1st Mar., 547-550.
- Prawiranegara, D.D. and Hong, L.G. (1962) *Main nutrition problems in Indonesia* Presented at the *Far East Symposium on Nutrition, Saigon - Vietnam, 1962*, under the joint sponsorship of the *Government of Vietnam, Ministry of Health and the Interdepartmental Committee on Nutrition for National Defence of the Government of the U.S.A.*
- Razafimahery, R. (1953-54) Glucosides cyanogenetiques pois du cap, manioc et 'Bononoka'. *Bull. de l'Acad. Malgache (New Series)*, **31-32**, 4-77.
- Schubert, J. and Brill, W.A. (1968) Antagonism of experimental cyanide toxicity in relation to the *in vivo* activity of cytochrome oxidase. *J. Pharm. exp. Ther.*, **162**, 352.
- Valencia, R. and Raibaud, P. (1968) Influence des conditions de culture sur la production de cobalamines par les bacteries de la flore intestinale du rat et sur leur fermentation. *Ann. Nutr. Alim.*, **22**, (1), 77-81.
- Williams, A.O. and Osuntokun, B.O. (1969) Peripheral neuropathy in tropical (nutritional) ataxia in Nigeria. Light and electron microscopic study. *Archs Neurol., Chicago*, **21**, 475; *BIBRA Inform. Bull.*, 1970, **9** (4), 200-201.
- Wilson, J. (1965) Leber's hereditary optic atrophy: A possible defect of cyanide metabolism. *Clin. Sci.*, **29**, 505-515.
- Wilson, J. and Matthews, D.M. (1966) Metabolic inter-relationships between cyanide, thiocyanate and vitamin B₁₂ in smokers and non-smokers. *Clin. Sci.*, **31**, 1-7.
- Wood, T. (1965) The toxic and nutritional qualities of cassava. *W. Afr. Pharm.*, **7**, (1), 2-4.

Food, processing, machinery

- | | | |
|---|--------|---|
| Adeyinka, O. and Akran, C.D. | (1964) | Improvements on the 1 ton/day gari p
<i>Fedl Inst. Ind. Res. Niger., Res. Rep.</i>
No. 29, pp.14. |
| Affran, D.K. | (1968) | Cassava and its economic importance.
<i>Ghana Fmr</i> , 12 (4), 172-178. |
| Akinrele, I.A.,
Cooke, A.S. and
Holgate, R.A. | (1962) | The manufacture of gari from cassava
Nigeria. <i>Proc. 1st Int. Congress Fo</i>
<i>Sci. Technol.</i> , 4, 633-644. |
| Akinrele, I.A. | (1965) | The water relations of some processes
Nigerian foods. <i>Fedl Inst. Ind. Res.</i>
<i>Niger., Res. Rep.</i> No. 33, pp.9. |
| Anderson, G.W. | (1944) | Notes on cassava preparation in North
Kavirondo and Samia. <i>E. Afr. agric.</i>
10, Oct., 111-112. |
| Anon. | (1943) | The preservation of manioc. <i>Dep.</i>
<i>Agric., Ceylon Leaflet</i> . No. 202, <i>Fd Pro</i>
<i>Leaflet</i> . No. 22, pp.5. |
| Bains, G.S., Reddy, S.K.
Bhatia, D.S.,
Subrahmanyam, V. | (1952) | Investigations on the utilization of
tapioca flour for chapatis, pooris and
vermicelli. <i>Bull. cent. Food technol.</i>
<i>Res. Inst., Mysore</i> , 2, 38-42. |
| Balu, V. and
Parpia, H.A.B. | (1958) | <i>Tapioca macaroni goes to the people.</i>
<i>Cent. Food technol. Res. Inst., Mysore</i>
<i>Fd Sci. Extension Serv. Bull.</i> No. 1,
pp.45. |
| Burton, L.V. | (1929) | Continuous process of (tapioca)
manufacture. <i>Fd Industries, U.S.A.</i>
1 (11), 491-494. |
| Cedillo, V.G. | (1952) | Cassava rice or landang. <i>Philipp.</i>
<i>Agric.</i> , 35 (8), 434-440. |
| Collard, P. and Levi, S. | (1959) | A two-stage fermentation of cassava
<i>Nature, Lond.</i> , 183, Feb. 28, 620-62 |
| Cruz, S.R.,
Palencia, P.L.,
Roque, B.H., Ozaeta, R. | (1959) | Mechanical cassava-peeling machine.
<i>Araneta J. Agric.</i> , 6 (3), 184-205. |

- Dole, G.E. (1956) Techniques for preparing manioc flour as a key to culture history in tropical America. *Men and cultures. Selected Papers of the Fifth Int. Congress of Anthropological and Ethnological Sciences*, 241-248. Ed. by A.F.C. Wallace. Philadelphia, Univ. of Pennsylvania Press. London, Bombay, Karachi, Oxford Univ. Press.
- Ekandem, M.J. (1961) Preparation of cassava in the human diet of Nigeria. *Fedl Dep. Agric. Res., Ibadan, Niger.*, Memo No. 29, pp.8.
- Ghosh, B.N. (1967) Heat and air-flow characteristics in drying root crops. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 2*, Section VI, 1-27.
- Hachero, L. (1957) A cottage cassava slicer. *Philipp. J. Agric.*, **22** (1-4), 81-88.
- Hagen, V.W. von (1949) The bitter cassava eaters. *Nat. Hist., N.Y.*, **58** (3), 120-124.
- Hartley, K.T. (1942) The production of cassava starch as a Nigerian village industry. *Bull, Imp. Inst.*, **40** (4), 268-271.
- Holleman, L.W.J. (1950) *Java tapioca, its manufacture, grading and use. Organisation for Sci. Res. (Indonesia) Publ. No. 22, Djakarta*, pp.14.
- Holleman, L.W.J. and Aten, A. (1956) *Processing of cassava and cassava products in rural industries. Agric. Dev. Pap., F.A.O., No. 54*, pp.115.
- Jarmai, S. (1968) A new fast method for the production of Kokonte. *Ghana J. agric. Sci.*, **1**, 59-63.
- Johnston, B.F. (1958) *The staple food economies of western tropical Africa. California, Stanford Univ. Press.*
- Kim, J.C. and Ruiter, D. de (1968) Bread from non-wheat flours. *Fd Technol.*, **22** (7), 55-66.
- Krochmal, A. and Kilbride, B. (1966) An inexpensive laboratory method for cassava starch extraction. *J. agric. Univ. P. Rico*, **50** (3), 252-253.

- Kuppuswamy, S. (1962) Studies on the dehydration of tapioca. *Fd Sci.*, 11 (4), 99-100.
- Lavigne, R. (1966) Etude sur séchage du manioc. *Bull. Madagascar*, 16 (240), 442-466.
- Levi, S.S. and Oruche, C.B. (1958) Some inexpensive improvements in village scale gari making. *Fedl Inst. Ind. Res., Niger., Res. Rep. No. 2*, pp.2-4.
- Massall, E. and Barrau, J. (1956) Food plants of the South Sea Islands. *S.P.C. tech. Pap.*, No. 94, 21-23.
- Mendiola, N.B. (1931) Cassava growing and cassava starch manufacture. *Philipp. Agric.*, 20 (1931), 447-476.
- Mercado, T. (1939-40) Construction and improvement of cassava graters in the College of Agriculture. *Philipp. Agric.*, 28 (2), 158-161.
- Montemayor, Z. (1929) A promising cassava grater for the Philippines. *Philipp. Agric.*, 17 (10), 593-597.
- Nijholt, J.A. (1964) Report of the survey of cassava production and processing in Ceylon. *F.A.O.*, pp.32.
- Percy, J. and Redman, S. (1965) Development of a small cassava mill and small processors. *Trop. Agric.*, 42 (2), 105-109.
- Pereira Calzadillo, O. (1968) La yuca:riqueza potencial inexplorada. *Campaña Ahora.*, 2, (18) 5-6; *Trop. Abstr.* 1969, 24 (10), s 2298.
- Rao, H.A.G. (1951) Cultivation of cassava and the preparation of its products. *Mysore agric.* 27 (3), 57-73.
- R -, C.H. (Samoa) (1936) Home-made machine grater. *Pacif. Mthly.*, 6 (12), 62-63.
- Stanton, W.R. and Wallbridge, A. (1969) Fermented food processes. *Process Biochem.*, 4 (4), 45-51.
- Sturtevant, W.C. (1969) History and ethnography of some West Indian starches. *The domestication and exploitation of plants and animals* 177-199. Ed. by P.J. Ucko and G.W. Dimbleby. London, G. Duckworth & Co.

- Subrahmanyam, V. (1957) Food grains from tapioca. *Fd Sci.*, 6 (8), 183-185.
- Subrahmanyam, V., Rao, M.N., Swaminathan, M. (1959) Sago. *Sci. Cult.*, 25 (6), 343-348.
- Subrahmanyam, V., Sreenivasan, A., Bhatia, D.S., Bains, G.S., Swaminathan M. (1962) Processing of food tubers with special reference to cassava (tapioca) into enriched macaroni type products. *Proc. 1st Int. Congress, Fd Sci. Technol.*, 4, 653-678.
- Swaminathan, M., Krishna, B.H., Rao, G.R. (1952) A plan for a tapioca soji factory. *Bull. cent. Food technol. Res. Inst., Mysore*, 2, 79-81.
- Vitti, P. (1966) Industrializacao da mandioca, producao de amido, raspa et farinha de raspa. *Bolm Centr. Trop. Pesq. tecnol. Aliment.*, No. 6, 26-33.
- Zwankhuizen, M.T. (1962) Report to the Government of Nigeria on the improvement in processing and utilisation of copra, cassava (gari), rice and cashew nuts suitable for adoption in rural industries. *F.A.O. Expanded Tech. Assist. Progr. Rep.*, No. 1529, pp.63.

Industrial uses

- | | | |
|------------------------------|--------|--|
| Anon. | (1923) | Cassava as a source of power alcohol. <i>U.K. Dep. Sci. ind. Res., Fuel Res. B.</i> pp.13, Appendix pp.9. |
| Anon. | (1931) | La fabrication de l'alcool par les procédés H. Boulard. <i>Prod. colon. (Cah. colon. Supp. tech.)</i> , Marseille, 28th (91), 177-184. |
| Anon. | (1965) | The use of tapioca starch by cotton mills. Views of Mills Federation. <i>Indian text. J.</i> , 76 (902), 77-79. |
| Beeny, J.M. | (1969) | Mechanization of tapioca. Paper read at <i>Malaysian Crop Diversification Conference, Kuala Lumpur</i> , November. pp.14. |
| Bonnefoy, J.V. | (1931) | La fabrication de l'alcool a base de manioc. <i>Prod. colon. (Cah. colon. Supp. tech.)</i> . Marseille, 28th Sept. (88), 132-139. |
| Bravo, A.F. | (1950) | The cultivation of cassava. Plan of an installation to manufacture cassava starch. <i>Misc. Publ. 330, Min. Agric. Argentina</i> . |
| Brautlecht, C.A. | (1953) | <i>Starch. Its sources, production and uses</i> , 209-226. New York, Reinhold Publishing Corp. |
| Flaws, L.J. and Palmer, E.R. | (1968) | The production of particle board from cassava stalks. <i>Trop. Prod. Inst. Rep. G.34</i> , pp.3. |
| Füllgrabe, A. | (1956) | Extraction of manioc roots. <i>Die Stärke</i> 8 (2), 27-37. |
| Ghosh, B.N. | (1968) | The manufacture of starch from cassava roots in Uganda. <i>E. Afr. agric. For. J.</i> , 34 (1), 78-83. |
| Gutheil, N.C. | (1952) | A industria do alcool de manioca e suas possibilidades no Rio Grande do Sul. <i>Revta Quim ind., Rio de J.</i> , 21 (245) 19-22. |
| Hall, D.M., Sayre, J.G. | (1969) | A scanning electron-microscope study of starches. Part I: Root and tuber starches. <i>Text. res. J.</i> , 39 (11), 1044-1052. |

- | | | |
|---|-----------|--|
| Hao, P.L.C. | (1957) | Production of butanol and acetone from sweet potato, cassava and blackstrap molasses. <i>Proc. 9th Pacif. Sci. Congress, Pacif. Sci. Assoc., Thailand. 5, Chemistry in the development of natural resources</i> , 15-19. |
| Honsch, W.M. | (1966) | Production and properties of yuca starch (Venezuela). <i>Die Stärke</i> , 18 (1), 20-22. |
| Krishnamurti, B.G. | (1960) | Tapioca as a source of alcohol. <i>Curr. Sci.</i> , 29 (9), 346-348. |
| Krochmal, A. | (1967) | Cassava in the New World. <i>Wld Crops</i> , 19 (1), 74-75. |
| Paula, R.D. de G. | (1964) | Algumas indicacoes sobre industrial de mandioca subprodutos. <i>Revta Quim ind., Rio de J.</i> , 33 (386), 20. |
| Samson, G. | (1951) | Liquid glucose from cassava starch. <i>Acta med. Philipp.</i> , (8), 43-48. |
| Sandoval, G.M. and Acena, B. | (1953-54) | A cassava processing plant. <i>Philipp. agric. Engng J.</i> , 4th Qtr., 181-183. |
| Schmidt, H.D. | (1965) | Erfahrungen in der Thailandischen tapiocastärke und tapioca-mehlindustrie. <i>Die Stärke</i> , 17 (11), 351-354. |
| Serra, P.G. | (1955) | Modern technique of cassava starch manufacture. <i>Rev. Brasil. Quim</i> , 39 , 85-90. |
| Silva, A. de F. | (1964) | A mandioca. <i>Gazeta Agric. Moçamb.</i> , 16 (179), 109-117. |
| Subrahmaniam, V. | (1952) | Note on the preparation of glucose from tapioca starch. <i>Tapioca Enquiry Committee, Govt. Travancore-Cochin, India. Final Rep.</i> Appendix H, 97-99. |
| Suzuki, S. | (1964) | An overall look at the dextrose industry in Japan. <i>Die Stärke</i> , 16 , 285-293. |
| Teixeira, C.,
Andreasen, A.,
Kolachov, P. | (1950) | Ethyl alcohol from cassava. <i>Ind. Engng Chem. ind. (int.) Edn.</i> , 42 , 1781-1783. |

- | | | |
|---|-----------|--|
| Torres, F. | (1953-54) | The manufacture of cassava starch.
<i>Philipp. agric. Engng J.</i> , 4th Qtr.,
184-186. |
| Tobangui, M.A.,
Masilungan, V.A. and
Hipolito, D. | (1939) | The fermentation of cassava and molasses
for the production of acetone and n-butyl
alcohol. <i>Philipp. J. Sci.</i> , 70
123-131. |
| Vitti, P. | (1966) | Industrialização da mandioca, produção
de amido, raspa e farinha de raspa.
<i>Bolm Cent. trop. Pesq. tecnol. Alimen</i>
(6), 26-33. |
| Williams, A.E. | (1933) | Glucose from the manioc plant.
<i>Chem. Tr. J.</i> , 93 (2414), 133-134. |

Mechanisation of crop; economics, market

- | | | |
|-----------------------------------|--------|---|
| Acena, B. and
Salon, D.T. | (1959) | An economic study of the cassava industry. <i>Pl. Ind. Dig.</i> , 22 (9-10), 6-7, 14. |
| Affran, D.K. | (1968) | Cassava and its economic importance. <i>Ghana Fmr</i> , 12 (4), 172-178. |
| Albuquerque, M. de | (1957) | Some aspects of the social economical influence of cassava in Amazonia. <i>Norte Agron.</i> , 3 (3), 13-21 and <i>Chem. Abstr.</i> , 1958, 52 (2), 1504. |
| Alberto, J. | (1958) | A Mandioca. Pt. IV Importancia economica da cultura. <i>Gazeta agric. Angola</i> , 3 (6), 266-272. |
| Anon. | (1968) | The Federal Republic of Germany, the Netherlands and Belgium. The markets for manioc as a raw material for compound animal feedingstuffs. <i>Int. Trade Centre, UNCTAD-GATT</i> , Geneva pp.94. |
| Arnould, J. -P. | (1969) | Note sur le marché du manioc dans la CEE. Débouché potentiel pour les États Africains et Malgaches Associés. <i>Agron. trop. Paris</i> , 24 , Ser. 1, 959-969. |
| Bates, W.N. | (1963) | <i>Mechanisation of tropical crops</i> . 2nd rev. impression, 268-273. London, Temple Press Books Ltd. |
| Beeny, J.M. | (1969) | Mechanization of tapioca. Paper read at <i>Malaysian Crop Diversification Conference, Kuala Lumpur</i> . November. pp.14. |
| Brown, L.H. | (1963) | <i>A national cash crops policy for Kenya</i> (Parts I and II), 120-122. <i>Min. agric. Anim. Husbandry, Kenya</i> . |
| Catambay, A.B. | (1932) | Cost of harvesting cassava with a plow. <i>Philipp. Agric.</i> , 21 (4), 277-280. |
| Catambay, A.B. and
Yango, C.E. | (1935) | Cost of harvesting cassava with animal drawn plow. <i>Philipp. Agric.</i> , 23 (8) 662-665. |
| Checchi and Co. | (1964) | Prospects for a tapioca starch industry in Guinea. <i>U.S. Agency for International Development, Rep.</i> 2067, pp.57. |

- (1949) *Étude des divers problèmes concernant le manioc à Madagascar. Congrès du manioc et des plantes féculentes tropicales des territoires de l'Union Française, Inst. colon. Marseille, 111-117.*
- Hiranandani, G.J. and Advani, K.H. (1955) *Report on the marketing of tapioca in India. Directorate of Marketing and Inspection, Min. Fd Agric., India, Marketing Series No. 88. 72.pp.*
- Jones, E.A. (1968) *The prospects for the manufacture of tapioca starch and dried tapioca root in Fiji. Special Studies, Pap. No. Central Planning Office, Fiji.*
- Krochmal, A. (1966) *Labour input and mechanisation of cassava. Wld Crops, 18 (3), 28-30.*
- Kumar, H. (1962) *Mechanisation of cassava planting. Ghana Fmr. 6 (3), 102-105.*
- Lambourne, J. (1937) *Experiments on the economic maintenance of soil fertility under continuous cropping with tapioca. Malay agric. 25 (4), 134-145.*
- Leslie, K.A. (1967) *The significance of root crops in the tropics. Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 2, Section V, 1-17.*
- Little, Inc., A.D. (1964) *Feasibility of a cassava starch industry in Nigeria. Rep. to the Min. Comm. Fedl Repub. Nigeria, pp.128.*
- Little, Inc., A.D. (1964) *International market potential for Nigerian cassava products. Rep. to Min. Comm. Ind., Fedl Repub. Nigeria pp.61.*
- Lulofs, R.B. (1969) *A study of method and costs for commercial planting of tapioca in Kedah. Paper at Malaysian Crop Diversification Conference, Kuala Lumpur. November*
- Nijholt, J.A. (1964) *Report on the survey of cassava production and processing in Ceylon, F.A.O., p*
- Pushparajah, E. and Yeok, T.S. (1969) *Tapioca as an intercrop in rubber. Paper read at Malaysian Crop Diversification Conference, Kuala Lumpur. November. pp.10.*

- Rees, A.M.M. (1962) The cassava industry in Jamaica. *Caribb. Agric.*, 1 (1), 34-41.
- Rees, A.M.M. (1967) Some economic aspects of root crop production with particular reference to the economics of producing carbohydrates from roots as compared with other sources in primitive developing and advanced economies. *Proceedings of the International Symposium on Tropical Root Crops, Trinidad, 2*, Section V, 18-33.
- Sills, V.E. (1959) Cassava starch. Prospects of a cassava starch industry in Fiji. *Fiji agric. J.*, 29 (1), 16-18.
- Upton, M. (1966) Agriculture in Uboma. *Uboma - A socio-economic and nutritional survey of a rural community in eastern Nigeria. Int. Geogr. Union, The World Land Use Survey, Occasional Pap.* No. 6, 90-104.
- Walker, H. (1966) The market for cassava. *Trop. Prod. Inst. Rep. G.21.* pp.21.

